

EVALUATION
A Desirable and Essential Culture for Success

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Evaluation Allows Intelligent Decision-Making

- **Continue resources at the same level**
 - Working marginally well
- **Increase resources**
 - Working great
- **Discontinue**
 - Not working

Evaluation

- **Needs:**
 - Data
 - Proven methodology
 - Skilled human resources
 - Identification of Measures of Effectiveness (MOEs)
 - Traffic crashes and injuries
 - Delay, number of stops, stopped time delay, fuel consumption, air pollution
 - Others

Evaluation Methodologies

- Before and After (B&A)
- Before and After with Control
- Comparative Parallel
- Before, During and After
- Empirical Bayes (EB) method

Application in Research

- Development of innovative ideas
- Transforming ideas into practical applications
- Testing the applications in the real world
- **Perform evaluation**
- Reporting successes and failures

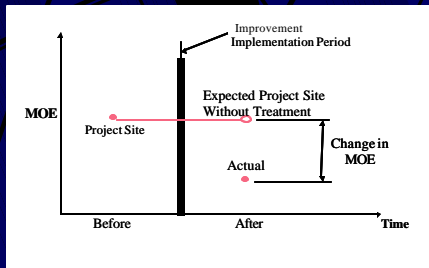
Application in Operations or Maintenance Related Projects or Programs

- Collect 'Before' data
- Develop evaluation plan
- Implement treatment
- Fine-tune system
- Collect 'After' data
- Perform evaluation

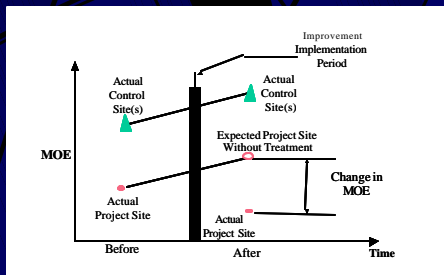
Application in Safety

- Collect 'Before' data
- Identify deficiencies
- Conduct engineering studies
- Develop and implement countermeasures
- Collect 'After' data
- Perform evaluation
- Refine improvements, if necessary

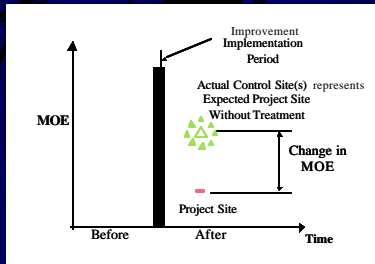
Before and After Study



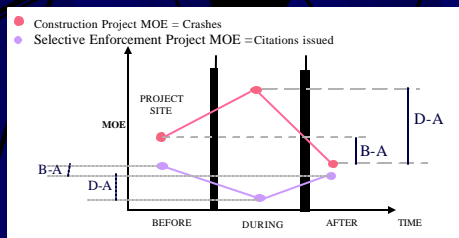
Before and After with Control Study



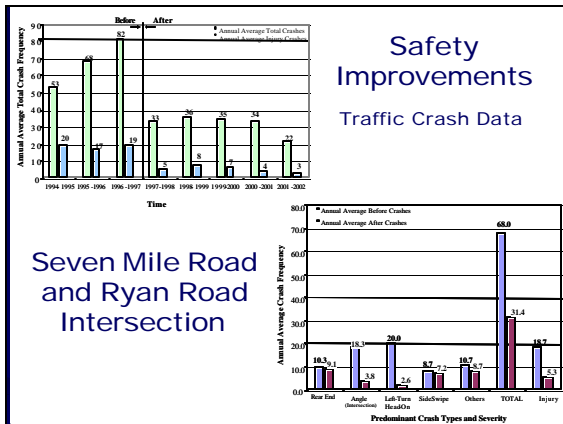
Comparative Parallel Study

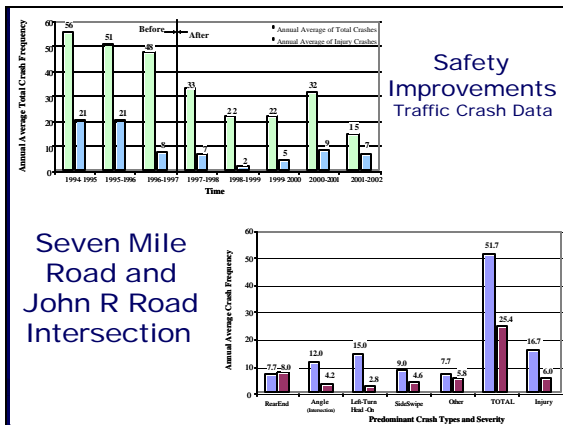


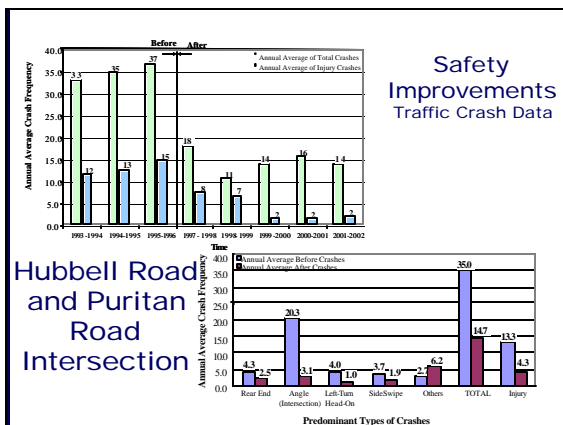
Before, During and After Study



Examples of Evaluations

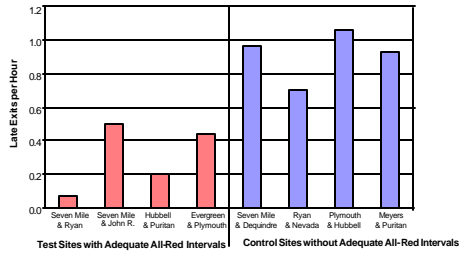






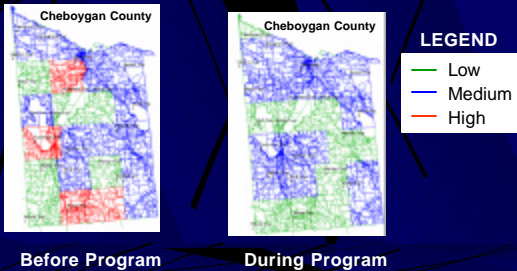
Driver Behavior Study

Use of All-Red Intervals at Signalized Intersections and its Impact on Late Exits

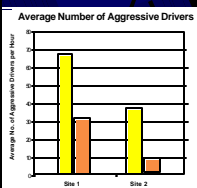


Alcohol Enforcement Program in Cheboygan County in 1999 'Before and During' Study

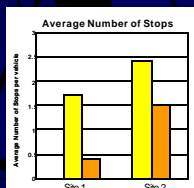
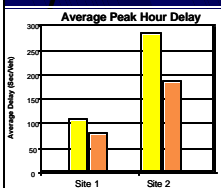
Crash Frequencies for Alcohol-Related Traffic Crashes



Advanced Technology in Construction Work Zones

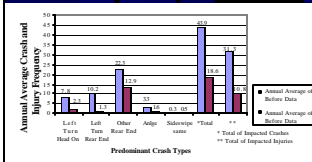


Dynamic Early Lane Merge Traffic Control System (DELMTCS)

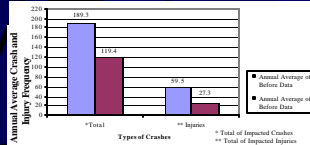


With DELMTCS 'After'
Traditional Traffic Control 'Before'

MDOT's Safety Programs



Treatment: Installation of Exclusive Left-Turn and Right-Turn Lanes (5 sites)

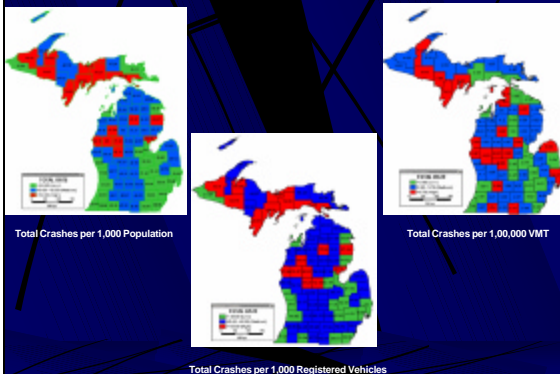


Treatment: Skid Resistance Improvements (5 sites)


Examples of Data Use

- Management
- Decision Making
- Setting Policies
- Analysis
- Research

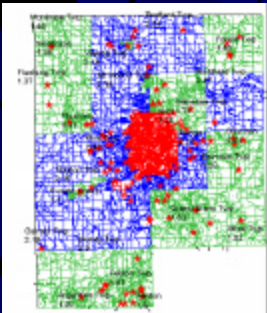
Crash Rates in Michigan Year 2001



Alcohol-Related Crashes in Genesee County



Location of Liquor Establishments in Genesee County



Liquor Establishments and Average Alcohol Related Crashes per 1,000 Population (1997-2001)

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Any Questions?

Questions

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